

AMENDMENTS TO THE CLAIMS

Upon entry of this amendment, the following listing of claims will replace all prior versions and listings of claims in the pending application.

IN THE CLAIMS

Please amend claims 1, 4-8, 11-13, 16, 20, 22-33, 35 and 36, cancel claims 2, 3, 14, 16, 19, 21 and 34, and add new claims 37-96 as follows:

1. (Currently Amended) A method for establishing a secure communication channel between a client and an application server comprising the steps of:

(a) receiving, at a web server, a request from a client to have an application program executed on an application server and to have output from said application program executing on said application server transmitted to said client;

(b) generating, by a ticket service, a ticket having an identifier and a session key;

(c) obtaining, by said web server, said ticket from said ticket service;

(d) transmitting, by said web server, said ticket to a said client over a secure communication channel;

(e) transmitting, by said client, said identifier of from said ticket by said client to an said application server over an application communication channel;

(f) obtaining, by said application server, a copy of said session key of said ticket from said ticket service using said identifier; and

(g) establishing an application communication channel between said client and said application server;

(h) executing, by said application server, said application program identified in said request;

(i) transmitting, by said application server, output of said application program over said application communication channel via a remote display protocol; and

(j) encrypting said output communicated ~~communications between to~~ said client ~~and said application server~~ over said application communication channel using said session key to ~~establish said application communication channel as a secure communication channel.~~

2. (Canceled).

3. (Canceled).

4. (Currently Amended) The method of claim 2 ~~1~~ wherein said ticket service resides on said web server.

5. (Currently Amended) The method of claim 2 ~~1~~ wherein step (f) further comprises ~~comprising~~ transmitting, by said application server, said identifier to said web server over a server communication channel.

6. (Currently Amended) The method of claim 5 further comprising receiving, by said application server, ~~said~~ a response to transmitting said identifier to said web server, said response including said session key.

7. (Currently Amended) The method of claim 5 further comprising validating, by said web server, said identifier ~~transmitted by said application server.~~

8. (Currently Amended) The method of claim 7 wherein said validating step further comprises confirming by said web server that said identifier is received by said web server within a predetermined ~~certain-time frame relative to a time that said identifier was transmitted~~ ~~by said web server to said client.~~

9. (Original) The method of claim 1 wherein said session key is substantially equivalent to a null value.

10. (Original) The method of claim 9 wherein said null value is a constant value.

11. (Currently Amended) The method of claim 9 ~~wherein~~ further comprising establishing said ~~application~~ server communication channel as a secure communication channel.

12. (Currently Amended) A method for establishing a secure communication channel between a client and an application server comprising the steps of:

(a) transmitting to a web server a request to have an application server execute an application program and transmit output from said application program executing on said application server;

a' (b) establishing a secure web communication channel between a web browser executing on said client and a said web server;

(c) receiving a ticket having an identifier and a session key from said web server over said secure web communication channel; ~~and~~

(d) establishing an application communication channel with said application server over said application communication channel;

(e) transmitting said identifier ~~of~~ from said ticket to said application server over an application communication channel to provide said application server with information for obtaining a copy of said session key;

(f) receiving output of said application program, identified in said request, from said application server over said application communication channel via a remote display protocol;

and

(g) decrypting said output using said session key.

13. (Currently Amended) A method for establishing a secure communication channel between a client and an application server comprising the steps of:

(a) receiving a request from a web server to execute an application program on behalf of a client and transmit to said client output from said application program executing on said application server;

(b) receiving an identifier from said client;

(c) receiving obtaining from said web server a copy of a ticket having an identifier and a session key associated with said identifier over a secure web communication channel;

transmitting from said identifier of from said ticket to said application server over an application communication channel to provide said application server with information for obtaining a copy of said session key; and

(d) establishing an application communication channel with said client;

(e) executing said application program identified in said request;

(f) transmitting output of said executing application program over said application communication channel via a remote display protocol; and

(g) encrypting and decrypting communications said output transmitted to and received from said application server over said application communication channel using said session key received over said secure web communication channel to establish said application communication channel as a secure communication channel.

14. (Canceled).

15. (Currently Amended) The method of claim 13 wherein ~~said identifier is~~ step (b) comprises receiving a nonce from said client.

16. (Canceled).

17. (Original) The method of claim 13 wherein said ticket is generated by a ticket service.

18. (Original) The method of claim 13 wherein said identifier is an application server certificate.

19. (Canceled).

20. (Currently Amended) The method of claim 13 wherein step (b) further comprises ~~comprising transmitting~~ receiving a password to from said client ~~application server.~~

21. (Canceled).

22. (Currently Amended) A communications system for establishing a secure communication channel between a client and an application server comprising:

a1 a ticket service generating a ticket associated with a client, said ticket having an identifier and a session key;

a ~~communications device~~ web server in communication with said ticket service, ~~to obtain said ticket from said ticket service;~~

said web server receiving a request from said client to have an application program executed on an application server, obtaining said ticket from said ticket service, and transmitting said ticket to said client over a secure communication channel;

a said client transmitting said identifier from said ticket to said application server in ~~communication with said communications device over a secure communication channel to receive said ticket from said communications device over said secure communication channel;~~ and

said application server obtaining a copy of said session key from said ticket service using said identifier; ~~an application server in communication with said client over an application communication channel to receive said identifier of said ticket from said client and in~~

~~communication with said ticket service to obtain a copy of said session key from said ticket service, said application server and said client exchanging communications over said application communication channel encrypted using said session key to establish said application communication channel as a secure communication channel.~~

said client and said application server establishing an application communication channel, said application server executing said application program identified in said request and transmitting output from said executing application program over said application communication channel via a remote display protocol; and

said client and said application server encrypting communications using said session key.

21. 23. (Currently Amended) The system of claim 22 wherein said ticket service resides on said ~~communications device~~ web server.

24. (Currently Amended) The system of claim ~~23~~ 22 further comprising said application server transmitting said identifier to said ~~communications device~~ web server over a server communication channel.

25. (Currently Amended) The system of claim 24 further comprising said application server requesting a copy of said session key in response to receiving said identifier from said client.

26. (Currently Amended) The system of claim 25 further comprising said ~~communications device~~ web server validating said identifier ~~transmitted by said application server~~.

27. (Currently Amended) The system of claim 26 wherein said ~~communications device~~ web server ~~validates~~ validating further comprises said communications device confirming that said identifier said identifier has not been previously received from ~~transmitted by~~ said application server.

28. (Currently Amended) The system of claim 26 wherein said ~~communications device~~ web server ~~validates~~ validating further comprises ~~said communications device~~ confirming that said identifier when said identifier is received by said ~~communications device~~ web server within a ~~certain~~ predetermined time frame ~~relative to a time that said identifier was transmitted by said~~ communications device to said client.

29. (Currently Amended) The system of claim 27 further comprising said ~~communications device~~ web server transmitting said session key to said application server over said server communication channel ~~in response to said identifier~~.

30. (Currently Amended) The system of claim ~~27~~ 24 wherein said server communication channel is a secure communication channel.

31. (Currently Amended) The system of claim 25 further comprising said ~~communications device~~ web server transmitting additional information to said application server over said server communication channel.

32. (Currently Amended) The system of claim 31 wherein said additional ~~ticket~~ information ~~further~~ comprises login information of a user of said client.

33. (Currently Amended) The system of claim 32 wherein said additional ~~ticket~~ information ~~further~~ comprises a name of a software application executing on said application server.

34. (Canceled).

35. (Currently Amended) The ~~method~~ system of claim 22 further comprising said client transmitting a password ~~of a user operating said client~~ to said application server.

36. (Currently Amended) The ~~method~~ system of claim 22 further comprising said ticket service transmitting information corresponding to at least one of said client and a user operating said client to said application server.

37. (New) A communications system for establishing a secure communication channel between a client and an application server comprising:

a web browser on a client establishing a secure web communication channel with a web server, said web browser: transmitting to said web server a request to have an application server execute an application program and transmit to said client output of said application program executing on said application server; receiving a ticket associated with said client from said web server, said ticket having an identifier and a session key; and transmitting said identifier from said ticket to said application server; and

a¹ an application client on said client establishing an application communication channel with said application server, said application client receiving output of said application program, identified in said request, executing on said application server, over said application communication channel via a remote display protocol and decrypting said output using said session key.

38. (New) The system of claim 37 wherein said web browser receives additional information from said web server over said secure web communication channel.

39. (New) The system of claim 38 wherein said additional information further comprises an address of said application server.

40. (New) The system of claim 37 wherein said application client transmits a password of a user operating said client to said application server.

41. (New) The system of claim 37 wherein said identifier is an application server certificate.

42. (New) The system of claim 37 wherein said web browser uses secure socket layer technology to establish said secure web communication channel.

43. (New) The system of claim 37 wherein said identifier is a nonce.

44. (New) The system of claim 37 wherein said session key is substantially equivalent to a null value.

45. (New) The system of claim 37 wherein said null value is a constant value.

46. (New) A communications system for establishing a secure communication channel between a client and an application server comprising:

a ticket service generating a ticket associated with a client, said ticket having an identifier and a session key;

a web server in communication with said ticket service, said web server receiving a request from said client to have an application program executed on said client's behalf and to have output of said application program transmitted to said client, said web server transmitting said ticket to said client over a secure web communication channel;

an application server receiving said identifier from said ticket from said client, obtaining a copy of said session key from said web server, establishing an application communication channel with said client, executing said application program, transmitting output from said application program identified in said request to said client over said application communication channel via a remote display protocol, and encrypting said output using said session key.

47. (New) The system of claim 46 wherein said ticket service resides on said web server.

48. (New) The system of claim 46 wherein said application server obtains a copy of said session key from said web server in response to receiving said identifier from said client.

49. (New) The system of claim 46 wherein said web server validates said identifier.

50. (New) The system of claim 49 wherein said web server validates said identifier has not been previously received from said application server.

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51. (New) The system of claim 49 wherein said web server validates said identifier is received by said web server within a predetermined time frame.
 52. (New) The system of claim 49 wherein said web server transmits said session key to said application server over a server communication channel in response to receiving said identifier from said application server.
 53. (New) The system of claim 52 wherein said server communication channel is a secure communication channel.
 54. (New) The system of claim 52 wherein said web server transmits additional information to said application server over said server communication channel.
 55. (New) The system of claim 54 wherein said additional ticket information further comprises login information of a user of said client.
 56. (New) The system of claim 54 wherein said additional ticket information further comprises a name of a software application executing on said application server.
 57. (New) The system of claim 49 wherein said client transmits a password of a user operating said client to said application server.
 58. (New) The system of claim 49 wherein said ticket service transmits information corresponding to at least one of said client and a user operating said client to said application server.
 59. (New) The system of claim 49 wherein said identifier is an application server certificate.
 60. (New) The system of claim 49 wherein said identifier is a nonce.
 61. (New) The system of claim 49 wherein said session key is substantially equivalent to a null value.
 62. (New) The system of claim 49 wherein said null value is a constant value.

- a' 63. (New) The system of claim 49 wherein said secure web communication channel is established using secure socket layer technology.
64. (New) The method of claim 12 wherein said ticket is generated by a ticket service.
65. (New) The method of claim 64 wherein said ticket service resides on said web server.
66. (New) The method of claim 12 wherein said identifier is an application server certificate.
67. (New) The method of claim 12 wherein step (b) further comprises using secure socket layer technology to establish said secure web communication channel.
68. (New) The method of claim 12 wherein step (e) further comprises transmitting a password to said application server.
69. (New) The method of claim 12 wherein said session key is substantially equivalent to a null value.
70. (New) The method of claim 12 wherein said session key is substantially equivalent to a null value.
71. (New) The method of claim 13 wherein said ticket is generated by a ticket service.
72. (New) The method of claim 13 wherein said ticket service resides on said web server.
73. (New) The method of claim 13 wherein step (c) further comprises transmitting by said application server said identifier to said web server over a server communication channel.
74. (New) The method of claim 71 wherein said application server receives a response to transmitting said identifier to said web server, said response including said session key.
75. (New) The method of claim 71 wherein said web server validates said identifier.
76. (New) The method of claim 72 wherein said web server validates said identifier is received by said web server within a predetermined time frame.
77. (New) The method of claim 13 wherein said identifier is an application server certificate.

78. (New) The method of claim 13 wherein said session key is substantially equivalent to a null value.
79. (New) The method of claim 13 wherein said null value is a constant value.
80. (New) The method of claim 1 wherein said identifier is a nonce.
81. (New) The method of claim 1 wherein said identifier is an application server certificate.
82. (New) The method of claim 1 wherein step (j) further comprises decrypting communications from said application server using said session key.
83. (New) The method of claim 1 wherein said remote display protocol is the Independent Computing Architecture protocol.
84. (New) The method of claim 1 wherein said remote display protocol is the Remote Display Protocol.
85. (New) The method of claim 12 wherein step (g) further comprises encrypting communications to said application server.
86. (New) The method of claim 12 wherein said remote display protocol is the Independent Computing Architecture protocol.
87. (New) The method of claim 12 wherein said remote display protocol is the Remote Display Protocol.
88. (New) The method of claim 13 wherein step (g) further comprises decrypting communications from said client.
89. (New) The method of claim 13 wherein said remote display protocol is the Independent Computing Architecture protocol.
90. (New) The method of claim 13 wherein said remote display protocol is the Remote Display protocol.

91. (New) The system of claim 37 wherein said remote display protocol is the Independent Computing Architecture protocol.

92. (New) The system of claim 37 wherein said remote display protocol is the Remote Display Protocol.

93. (New) The system of claim 37 wherein said client encrypts communications to said application server using said session key.

94. (New) The system of claim 46 wherein said remote display protocol is the Independent Computing Architecture protocol.

95. (New) The system of claim 46 wherein said remote display protocol is the Remote Display Protocol.

96. (New) The system of claim 46 wherein said application server decrypts communications from said client using said session key.
